FishPathogens.eu a new database in the research of aquatic animal diseases

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Fishpathogens.eu a new database in the research on aquatic animal diseases

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Abstract

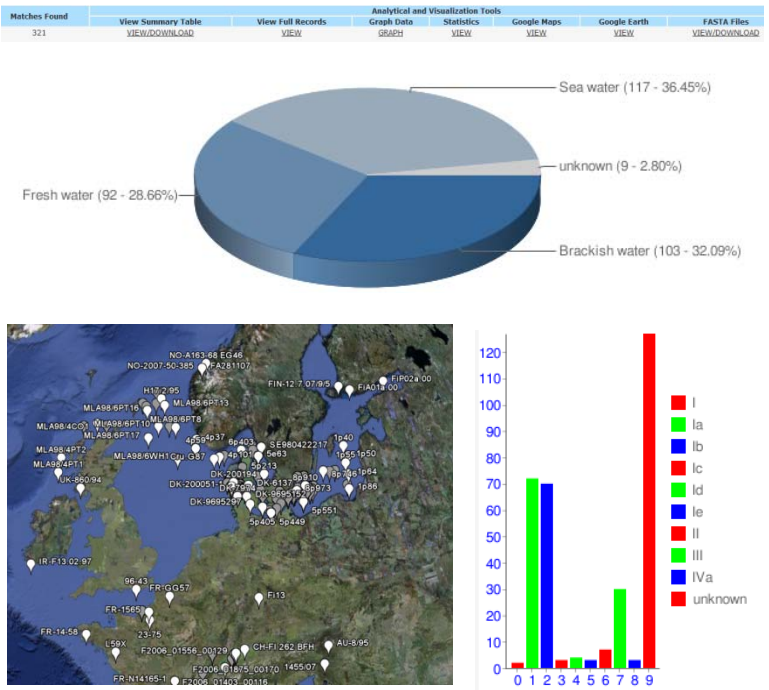
We live in a world where the amount of information available is enormous. In order to keep track of the available knowledge, databases are needed to collect, store, and sort it. Www.fishpathogens.eu is a database developed and maintained by the European Union Reference Laboratory for Fish Diseases. The database was launched in June 2009 focusing on Viral Haemorrhagic Septicaemia Virus (VHSV), extended with Infectious Haemorrhagic Necrosis Virus (IHNV) in 2010, and is now being extended to include Spring Viraemia of Carp Virus (SVCV), Infectious Salmon Anemia Virus (ISAV), Betanodaviruses, and Koi Herpes Virus (KHV). The database design is based on freeware and could easily be implemented to include pathogens relevant for other species than fish. We present the database using the data on the different fish pathogens as example. However if some are interested in the platform we are happy to cooperate and share the database structure with other Epizone members.

Background

Fishpathogens.eu is a database developed and maintained by the European Community Reference Laboratory for Fish Diseases. The database was launched in June 2009 with a part on Viral Haemorrhagic Septicaemia Virus (VHSV). The VHSV database which is available at www.fishpathogens.eu/vhsv has since then grown to include information on 459 VHSV isolates and sequences hereof. An extension on Infectious Haemorrhagic Necrosis Virus (IHNV) was released last year (www.fishpathogens.eu/ihnv). For more information on the two database please see:

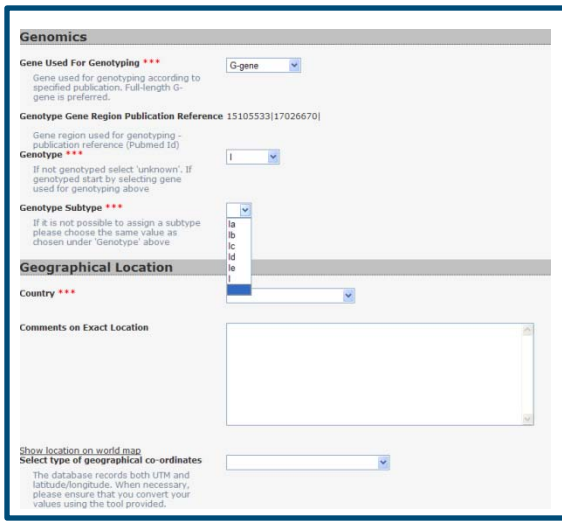
“FishPathogens.eu/vhsv: a user-friendly viral haemorrhagic septicaemia virus isolate and sequence database” Jonstrup et al. 2009, Journal of Fish Diseases.

“An isolate and sequence database of infectious haematopoietic necrosis virus (IHNV)” Jonstrup et al. 2010, Journal of Fish Diseases



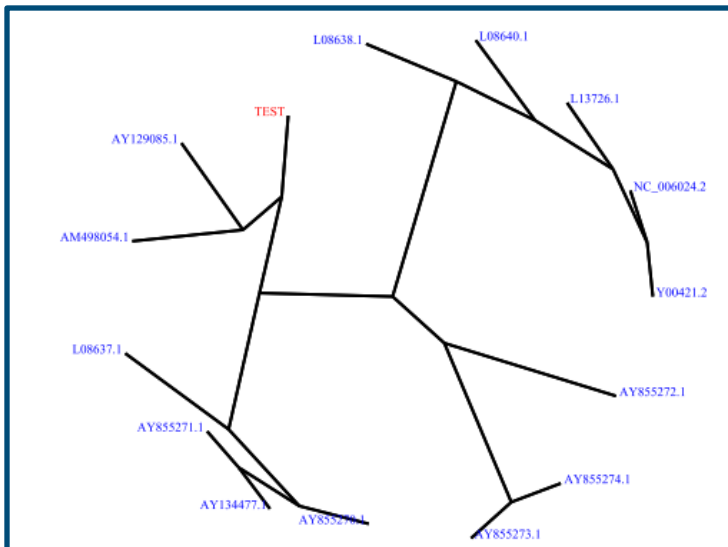
Displaying data

Several simple tools are used to provide a quick overview of the distribution of several features in retrieved data. Here, genotype and aquatic environment distribution of a subset of the isolates are shown, as well as the geographic distribution of several European isolates. Download data to spreadsheets or fasta files for further analysis in your own programs.



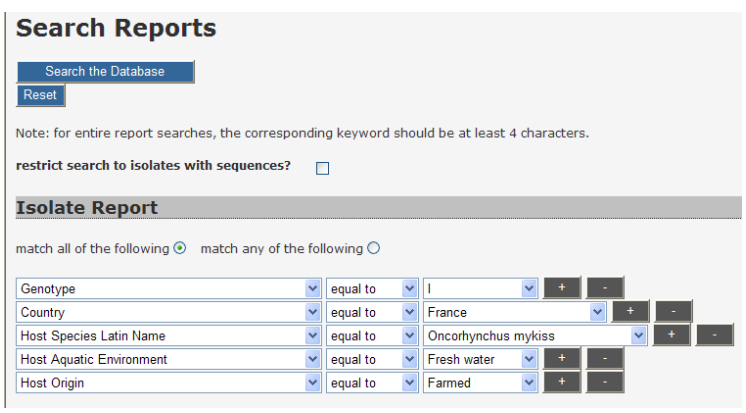
Adding data

Everyone can add data to the database. However, all added data is reviewed by pathogen experts before it is made public available. The addition of data is done by filling out simple forms. A lot of information is added using drop-down menus with pre-defined values. This makes it easier to search data afterwards. However, several free text fields also makes it possible to add special information about each isolate. It is possible to restrict access to all or part of reports ensuring that sensitive data can be kept private. To help adding data manuals are available on the website.



Online genotyping

We are currently cooperating with Paul-Michael Agapow and John Bashiruddin (HPA, Twickenham, UK) who are running an excellent database on Bluetonguevirus. Here it is possible to compare a sequence of interest to sequences in the database. Thereby getting a quick overview of how the sequence of interest is related to sequences already in the database. We are currently investigating whether this function can be implemented in Fishpathogens.eu. Sign up as user on our website to receive news on when this will happen.



Searching the database

A lot of effort has been put into making it easy to search the database. Several search options are available and many different search criteria can be combined to restrict the search. Here an example of a text based search of isolates is shown. Since isolate characteristics to a large extend is added using multiple choice it is easy to choose which key words to search.

www.epizone-eu.net

EC Network of Excellence for epizootic disease diagnosis and control

Technical University of Denmark
National Veterinary Institute

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